



# ENVIRONMENTAL ASSESSMENT BOARD

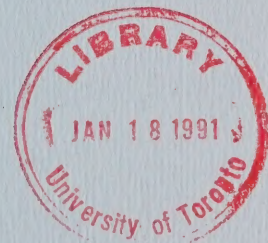
VOLUME: 275

DATE: Wednesday, January 9, 1991

BEFORE:

A. KOVEN Chairman

E. MARTEL Member



FOR HEARING UPDATES CALL (COLLECT CALLS ACCEPTED) (416)963-1249

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# ENVIRONMENTAL ASSESSMENT BOARD

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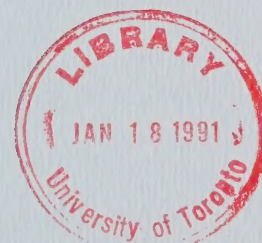
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HEARING ON THE PROPOSAL BY THE MINISTRY OF NATURAL  
RESOURCES FOR A CLASS ENVIRONMENTAL ASSESSMENT FOR  
TIMBER MANAGEMENT ON CROWN LANDS IN ONTARIO

IN THE MATTER of the Environmental  
Assessment Act, R.S.O. 1980, c.140;

- and -

IN THE MATTER of the Class Environmental  
Assessment for Timber Management on Crown  
Lands in Ontario;

- and -

IN THE MATTER OF a Notice by the  
Honourable Jim Bradley, Minister of the  
Environment, requiring the Environmental  
Assessment Board to hold a hearing with  
respect to a Class Environmental  
Assessment (No. NR-AA-30) of an  
undertaking by the Ministry of Natural  
Resources for the activity of timber  
management on Crown Lands in Ontario.

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Hearing held at the offices of the Ontario  
Highway Transport Commission, Britannica  
Building, 151 Bloor Street West, 10th Floor,  
Toronto, Ontario, on Wednesday, January 9,  
1991, commencing at 9:00 a.m.

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VOLUME 275

BEFORE:

MRS. ANNE KOVEN  
MR. ELIE MARTEL

Chairman  
Member





A P P E A R A N C E S

MR. V. FREIDIN, Q.C.)	
MS. C. BLASTORAH )	MINISTRY OF NATURAL
MS. K. MURPHY )	RESOURCES
MR. B. CAMPBELL )	
MS. J. SEABORN )	MINISTRY OF ENVIRONMENT
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MR. P.R. CASSIDY )	ASSOCIATION
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MR. B. McKERCHER )	OUTFITTERS ASSOCIATION





APPEARANCES: (Cont'd)

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MS. B. LLOYD	)	
MR. J.W. ERICKSON, Q.C.)		RED LAKE-EAR FALLS JOINT
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MR. G.J. KINLIN		DEPARTMENT OF JUSTICE
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MR. M. COATES		ONTARIO FORESTRY ASSOCIATION
MR. P. ODORIZZI		BEARDMORE-LAKE NIPIGON WATCHDOG SOCIETY





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MR. P.D. McCUTCHEON	GEORGE NIXON
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I N D E X   O F   P R O C E E D I N G S

<u>Witness:</u>	<u>Page No.</u>
CRANDALL BENSON, Resumed	49428
Continued Cross-Examination by Mr. Hanna	49428





1       ---Upon commencing at 9:10 a.m.

2                   THE CHAIRMAN: Good morning. Please be  
3 seated.

4                   Good morning, Mr. Hanna.

5                   MR. HANNA: Good morning, Madam Chair,  
6 Mr. Martel.

7                   CRANDALL BENSON, Resumed

8       CONTINUED CROSS-EXAMINATION BY MR. HANNA:

9                   Q. Mr. Benson, could you refer to Volume  
10 270 of the transcripts, page 48721, and I would like to  
11 look at your response that begins on line 8. A  
12 question from Ms. Swenarchuk.

13                   THE CHAIRMAN: Page 270, Mr. Hanna?

14                   MR. HANNA: Volume 270, Madam Chair, page  
15 48721.

16                   Q. You indicate there that in order to  
17 look at sustained yield you must work up from the  
18 management unit level; correct?

19                   A. That's correct.

20                   Q. Now, first of all, do you see the  
21 sustained yield level for different resources or  
22 perhaps all forest resources being expressed in timber  
23 management plans in terms of quantitative objectives?

24                   A. It's an ideal to aim for. You can't  
25 really do it at the present time, but it is an ideal

1       that you can aim for.

2                   Q.   What do you mean you can't do it at  
3       the present time?   Could you give me an example.

4                   A.   Well, a simple example would be  
5       moose, what is the level of the production going to be  
6       moose for a management unit.   You can't put a figure on  
7       that right now.

8                   I gave a graph in my presentation where I  
9       used hypothetical figures.   We don't have the  
10      measurements to allow us to draw an accurate line to  
11      reflect what the production of moose will be with the  
12      management of a forest over different rotation periods,  
13      as I was trying to show on the docuement I presented.

14                  Q.   I think this may be an issue that we  
15      addressed yesterday and if it is perhaps I should  
16      clarify it at this point.   When you said we haven't got  
17      the knowledge to draw an accurate estimate, when you  
18      say "accurate", can you explain to me what you mean by  
19      accurate?

20                  A.   Okay.   The graph I drew, I think, is  
21      roughly the right shape, but I don't know what numbers  
22      are associated with the different levels on the graph.  
23      I don't know what the difference would be between the  
24      high and the low point of the graph, what that would be  
25      quantitatively.



1                   Q. Is it your view that the technology  
2 does not exist and the knowledge does not exist at the  
3 present time to accurately undertake such forecasts as  
4 is done currently in the U.S. Forest Service?

5                   A. You can also make forecasts. It's a  
6 matter of how good you think those forecasts are going  
7 to be.

8                   My experience in talking to different  
9 biologists is they cannot give me a number to put on  
10 those curves. They can agree with the shape of the  
11 curves, but they don't want to be stuck putting a  
12 number on them.

13                  Q. That's been my experience also with  
14 biologists, but that's another issue in itself. That's  
15 also sometimes been a problem with foresters, there's a  
16 lot of unknowns in forestry also and, therefore, to put  
17 a fixed number in terms of sustainable yield can often  
18 be treacherous because of the uncertainty of the  
19 future. The same problems exist; do they not?

20                  A. That's true, yes.

21                  Q. So the question isn't in terms of  
22 whether or not we should quantitative objectives, but  
23 the level of precision that we can achieve in terms of  
24 those objectives. Isn't that the issue?

25                  A. Well, if you made a prediction trying

1 to put numbers on the moose production, how accurate  
2 would it be? Would you come out with a correct answer  
3 at the end? That's difficult to say, but certainly any  
4 type of a system you can make assumptions as to what  
5 number you want to use and go ahead and try to reach  
6 that number.

7 Q. Going back to my original question  
8 then. In terms of the timber management planning  
9 process, are you in favour of attempting to quantify  
10 and to put quantitative objectives in for moose  
11 production, as an example, recognizing there may be  
12 some uncertainty associated with those estimates and  
13 try to reduce that uncertainty in the future?

14 A. Yes. I think this is in line with  
15 the terms and conditions of Forests for Tomorrow also  
16 for quantifying objectives.

17 Q. So to take that one step further,  
18 with some objectives there will be a higher level of  
19 uncertainty associated with it than others, but the  
20 very fact that there is uncertainty is not a reason not  
21 to put in quantitative objectives?

22 A. Yes, I'd agree with that. I think  
23 when you put them in you should recognize what that  
24 uncertainty is or what the risk factor is associated  
25 with it.

1 Q. And deciding on the appropriate risk  
2 strategy, the full recognition of that uncertainty is  
3 an important part of the planning process?

4 A. Uncertainty and risk are two  
5 different --

6 Q. I wasn't going to raise that, but I  
7 am glad -- I will accept that, that there is two  
8 different things, risk and uncertainty.

9 A. So you really would have two  
10 different strategies that you could apply.

11 Q. And both should be recognized?

12 A. Both can be recognized.

13 Q. Perhaps just so we are both talking  
14 the same way, can you explain for the Board and myself  
15 the difference you see between risk and uncertainty?

16 A. Well, uncertainty is when you really  
17 don't know with any -- what the results are going to  
18 be. Forest fires are really an uncertainty, whereas  
19 if --

20 Q. I'm sorry, you said forest fires?

21 A. Forest fires.

22 Q. Forest fires are an uncertainty?

23 A. I would classify as an uncertainty,  
24 whereas risk is where you know what your chances are,  
25 what your probabilities are. If you go gambling you



1 are dealing with risk, you are dealing with  
2 probabilities.

3 Q. How about a risk in forest  
4 management. What would be a risk? Is an insect  
5 outbreak a risk?

6 A. Well, you could consider every time  
7 you operate on an area what are your chances of getting  
8 a level of regeneration back on that area.

9 If you have good data and records from  
10 the past, you've established a record for that type of  
11 treatment and you would know what your results are in  
12 terms of what has been successful, what hasn't been  
13 successful. You have established a pattern, you know  
14 what the risk is of achieving certain levels of  
15 success.

16 Q. So will you accept then that risk is  
17 an estimate of uncertainty that's derived from a  
18 quantitative record and that uncertainty is where such  
19 a record doesn't exist?

20 A. I suppose that's a way to look at it.  
21 I'm not exactly clear on what you mean by that because  
22 they are -- you are trying to blend them together a  
23 bit.

24 Q. I was trying to keep them very  
25 separate. You have just described to me gambling, the

1 reason that gambling is a risk is because we have got a  
2 sufficient understanding of the parameters that we can  
3 develop a quantitative prediction of what the  
4 uncertainty is or the risk is.

5 Now, if I have a situation where I have  
6 no historical information, then I haven't got a basis  
7 to develop a risk in a quantitative way and, therefore,  
8 I am stuck with uncertainty. Is that a fair summary of  
9 what you said?

10 A. Yes, I would say that's right.

11 Q. In terms of forest fires, insect  
12 disease, insect infestation, those types of things, we  
13 have a fairly long record of those in terms of their  
14 probability of occurrence and the consequences of the  
15 occurrence?

16 A. I suppose that's one you could argue  
17 about. I've always considered it to be more uncertain  
18 than a risk factor.

19 Q. Fine. Back to the question, though,  
20 in terms of objective timber management plans. You  
21 would agree then that in developing the quantitative  
22 objectives that the risk or uncertainty associated with  
23 those objectives is an important thing to describe to  
24 the public and to incorporate in the planning process?

25 A. It could be associated with the

1 process as long as it's not too complicated in the way  
2 that it's handled.

3 Q. The way that it is expressed. It may  
4 be complicated in the way it is handled, but it has to  
5 be expressed in simple terms that people can  
6 understand?

7 A. Well, I think even in the way it is  
8 handled it should be kept as simple as possible in the  
9 initial stages.

10 Q. I'll accept that, but sometimes there  
11 are limits to how simple you can keep things.

12 A. There can be, sure.

13 Q. I would like to speak further just on  
14 objectives for a moment. I would like you to look at  
15 the OFAH terms and conditions, Exhibit 1637,  
16 specifically terms and conditions 5 and 6.

17 I want to ensure that this is consistent  
18 with the type of approach that you are describing in  
19 your evidence. Perhaps we can deal first with term and  
20 condition No. 5.

21 A. Were there any particular part of  
22 five that --

23 Q. I want to make sure that five was a  
24 reasonable reflection of the discussion we've just had  
25 and the types of processes you would like to see in



1 timber management in terms of objectives.

2 Do you have any problem with term and  
3 condition No. 5?

4 A. Well, starting on the first part of  
5 five, 5.1, featured and other significant features --  
6 species, my approach that I was putting forward was not  
7 so much for featured species, but more of what might be  
8 called a wide siv approach to try --

9 Q. I'm sorry, wide...?

10 A. Siv, filter, to try to provide the  
11 conditions for as many species as possible realizing  
12 that we don't recognize the habitat requirements of all  
13 the species, but to provide the variety of habitats in  
14 the different forest types that would then provide the  
15 habitat requirements for different species. So I think  
16 that is different from the featured species management.

17 Q. Are there any other?

18 MR. MARTEL: Can I get clarification.

19 Are you talking in that section of the featured species  
20 approach which covers only the 70 per cent of  
21 wildlife--

22 MR. HANNA: Well -- sorry, Mr. Martel.

23 MR. MARTEL: --in that item there, item  
24 5.3?

25 MR. HANNA: Mr. Martel, there is two

1 points that I would clarify for you on that.

2 MR. MARTEL: If you would.

3 MR. HANNA: First of all, the OFAH is not  
4 proposing the two featured species that the Ministry  
5 has come forward with, that we are proposing that an  
6 area sensitive species for the boreal and Great Lakes  
7 forests are added, marten and pileated woodpecker,  
8 which is intended to deal to a great extent with those  
9 species that are not included.

10 On that top of that, and I will deal with  
11 this with Mr. Benson in a moment, is in terms of the  
12 species that may have specific habitat requirements  
13 that are not captured by either of the featured species  
14 in one of the boreal -- or one of the forest zones,  
15 that there would then be site specific management for  
16 those habitat according to those species.

17 Finally, I would say to you that the  
18 reason that there is subsection 5 there in terms of the  
19 forest ecosystem type is to try and deal, I think, with  
20 the type of concern that Mr. Benson has raised. In  
21 addition to that, that we maintain sufficient  
22 biological diversity in the forest in terms of types.  
23 That's the intent of it and I'm sure you will hear more  
24 about it.

25 MR. MARTEL: That is how it hangs

1 together?

2 MR. HANNA: Yes, sir.

3 MR. MARTEL: All right, fine. Thanks.

4 MR. HANNA: Q. I'm sorry, Mr. Benson,  
5 are there any other concerns you have with term and  
6 condition 5?

7 THE CHAIRMAN: Do you mean a 5.1, Mr.  
8 Hanna, or are you referring to the ten components of  
9 your condition No. 5?

10 MR. HANNA: The ten components, Madam  
11 Chair.

12 THE CHAIRMAN: Or nine, I think.

13 MR. HANNA: Seven I have.

14 MS. SWENARCHUK: Perhaps Mr. Benson can  
15 be given some time to read them before pressing on.

16 MR. HANNA: Take your time, Mr. Benson.

17 THE WITNESS: We are on page 26. It  
18 mentions using the FEC system.

19 MR. HANNA: Q. Sorry. Page 26?

20 A. It is under Section 5.3, Wildlife  
21 Management Units.

22 MR. FREIDIN: Which section, Mr. Benson?

23 THE CHAIRMAN: 5.3.

24 THE WITNESS: 5.3 and then 1.58.

25 MR. HANNA: Q. Term and condition 158.



1 A. Right.

2 Q. Yes.

3 A. Where it mentions forest ecosystem  
4 classification. From what I understand here, you are  
5 going to rely upon that classification system for  
6 establishing the management for different wildlife  
7 species?

8 Q. Perhaps you better refer to me what  
9 portion of the terms and conditions you have that  
10 understanding. I don't have that understanding, but  
11 maybe it's there and I'm not aware of it?

12 A. Well, it says:  
13 "Going to provide for convenient means to  
14 define the current biodiversity of the  
15 forest within the area of the  
16 undertaking."

17 So if you are going to manage for  
18 wildlife, you are using that FEC system as the system  
19 for defining the biodiversity and using that as a  
20 system that you are going to manage for wildlife to  
21 maintain --

22 Q. Biodiversity means much more than  
23 wildlife. Perhaps our definition of wildlife are  
24 different.

25 A. No, I'm not saying it means wildlife.

1 The way I read this it sounds as if you are using that  
2 as a base for managing wildlife. You are using that as  
3 a land base to...

4 I will read it more fully then. I was  
5 trying to take a short-cut.

6 MS. SWENARCHUK: Perhaps it would be  
7 helpful here if Mr. Hanna could put specific questions  
8 to Mr. Benson as to the areas that he is most  
9 interested in.

10 MR. HANNA: Madam Chair, I think it was a  
11 very simple question. I asked Mr. Benson to look at  
12 term and condition No. 5. I said, are you in favour or  
13 do you have a problem with term and condition No. 5.  
14 I can't think of a more simple question.

15 THE CHAIRMAN: Mr. Hanna, I might be  
16 mixed up here, but it looks to me like you have got  
17 about 10 pages of condition No. 5.

18 Just tell me what condition No. 5 is.

19 MR. HANNA: I will read it. It says:  
20 "All timber management plans shall  
21 contain measurable quantitative  
22 objectives, quantified objectives over  
23 the next rotation of the forest for the  
24 principal benefits predicted to be  
25 supplied by the proposed timber

1 management activities including, but not  
2 limited to the spacial distribution,  
3 quantity and quantity of..." and there  
4 are seven matters listed.

5 MADAM CHAIR: Okay, that's fine. I was  
6 in your Section 5 of the terms and conditions.

7 MS. SWENARCHUK: What page is that?

8 MADAM CHAIR: Page 1.

9 MR. HANNA: Page 1.

10 MADAM CHAIR: Are you at page one, Mr.  
11 Benson?

12 THE WITNESS: No.

13 MADAM CHAIR: I wasn't. I was down at  
14 page 25 and that is why I was confused. I think Mr.  
15 Benson was with me.

16 MS. SWENARCHUK: So were we all.

17 MR. FREIDIN: I was on page 1.

18 MADAM CHAIR: Oh, were you on page 1?  
19 Very good, Mr. Freidin.

20 MR. FREIDIN: It is the first time I've  
21 had the right number.

22 MADAM CHAIR: All right. Are we all on  
23 page 1?

24 MR. HANNA: I'm sorry, Mr. Benson,  
25 perhaps that's the reason why I couldn't understand



1 your response.

2 Q. I am dealing with term and condition  
3 No. 5 on page 1.

4 A. That's good. I would be in general  
5 agreement with those. The specifics would be argued  
6 about.

7 Q. Well, I would like to know what we  
8 are arguing about. The one specific that you have  
9 indicated is the population levels for featured  
10 species. You are saying that's not the approach that  
11 you are coming forward with?

12 Is that -- tell me the specifics if  
13 that's not the specific?

14 A. That would get into the pages in the  
15 20 numbers. I'm just saying as general principles I  
16 would agree with these, but when you start trying to  
17 define how do you go about approaching each particular  
18 item, there are different approaches you can take.

19 Q. That's fine. I accept that. But in  
20 terms of the types of objective that you would want to  
21 see in a timber management plan you are in agreement?

22 A. Yes. As general objectives, yes.

23 Q. Yes. In terms of having those  
24 objectives expressed in terms of spacial distribution,  
25 quantity and quantity, you will be in favour of that?

1 That's before the subheadings for each objective.

2 A. Spacial distribution. That was a  
3 point I was trying to make with the clearcut exercise,  
4 the way that they are distributed. Quality and  
5 quantity, certainly.

6 Q. Now, can we turn to term and  
7 condition No. 6.

8 MADAM CHAIR: Page 2?

9 MR. HANNA: Page 2, Madam Chair.

10 Q. I would like you to look first at the  
11 rationale for the term and condition, and the reason I  
12 am asking to look at the rationale is the comment you  
13 made about having sustainable yield levels build up  
14 from the management level basis.

15 I want to ensure that this is consistent  
16 with the view that you've put forward.

17 A. I'm not quite sure what is meant by  
18 the sentence:

19 "During the TMP preparation the broad  
20 top/down objectives are used to guide  
21 site specific decisions."

22 I'm not clear as to what that means.

23 Q. All right. You have worked for the  
24 Ministry, I think you are familiar with how the system  
25 works. I expect you will accept that there are certain

1 social policy choices that have to be made by our  
2 elected officials. You will accept that as a principle  
3 in terms of the way our society works?

4 A. Right.

5 Q. Those decisions provide broad  
6 guidance in terms of what's going to happen throughout  
7 the province and that's ultimately reflected in actions  
8 at the grounds level?

9 A. Okay.

10 Q. Now, the key issue is that those  
11 policy decisions that are made at that broad level - I  
12 think this is the point that you are making - are based  
13 upon an understanding of what the aggregate  
14 possibilities are at the management unit level;  
15 correct?

16 A. They should be.

17 Q. Yes. And I think the point -- the  
18 difficulty that I -- the reason this is put out this  
19 way is that it's not a deterministic situation.

20 Once that decision is made in parliament  
21 by whoever makes the decision, that doesn't say  
22 specifically what's going to happen on each piece of  
23 land in the province, there are some, if you will,  
24 slack, some interpretation of what that broad policy  
25 decision will be at a specific level. You understand

1       that?

2                   A.   Okay.   Maybe if I could ask for a bit  
3       clarification on that.

4                   Q.   Sure.

5                   A.   I would presume that what you are  
6       saying then is if the provincial policy was to favour  
7       gross production, say, then that would be what you  
8       would call a top/down -- coming from the top down where  
9       that would go down into the management units and try to  
10      emphasize that particular production at the management  
11      unit level?

12                  Q.   Correct.

13                  A.   But within the realms of the  
14      productive capability of the management unit?

15                  Q.   That's the limit that you have to  
16      work in and that's why that limit has to be made fully  
17      apparent to those making the policy decision, that  
18      those are the bounds in which they have to live.

19                  A.   Right.

20                  Q.   The terminology we have use here is a  
21      top/down, bottom/up -- excuse me, bottom/up, top/down  
22      planning process and I just wanted to ensure that  
23      that's consistent with your view of how timber  
24      management planning should be done?

25                  A.   I hadn't really worked in the



1 top/down. You don't usually have to work that part in,  
2 it comes in naturally anyway and I hadn't really  
3 considered that part of it. I was looking at it the  
4 from the management unit level up only.

5 Q. I understand. But you haven't any  
6 aversion to the fact that top/down is part of the  
7 reality of timber management planning also?

8 A. That's right. I haven't aversion if  
9 it exceeds the capability of the unit to produce a  
10 certain resource.

11 Q. And the best way to make sure that  
12 that doesn't happen is to make sure there's a bottom/up  
13 component through the planning process?

14 A. Right.

15 MR. MARTEL: The other reality, Mr.  
16 Hanna, is that most of the material isn't decided in  
17 parliament. Most of it never gets there to be made by  
18 the (inaudible) Ontarions.

19 MR. HANNA: I am only too aware that, Mr.  
20 Martel, but we are trying our best to assist those  
21 decision makers and having better information available  
22 to them.

23 Q. I would like now to move to your  
24 witness statement, page 5 of Exhibit 1604A. You also  
25 discuss the topic -- I believe your section here deals

1 with sustained yield and you have spoken about that at  
2 some length in your oral testimony. I would like to  
3 look at page 48721 of Volume 270, the same page we were  
4 looking at. At the bottom of the page starting at line  
5 24, you say:

6 "But really if you were managing for  
7 sustained yield, you are trying to  
8 maintain a certain level of production  
9 over time, you are not just maintaining  
10 it a level at this point in time to  
11 maximize anything. You are trying to  
12 maintain a level from now and as far as  
13 you can see in the future."

14 The essence of my questions here can be  
15 summarized as follows: Do you agree that the level to  
16 be maintained may not necessarily be constant, but may  
17 fluctuate?

18 A. You get into the problem of how much  
19 will it fluctuate and why is it fluctuating. From the  
20 management point of view of trying to achieve that  
21 forest, you are trying to keep it at that level.

22 Now, it may fluctuate because of, say, if  
23 a fire occurred or something happened to change the  
24 structure of the forest that you couldn't control.  
25 Well then, it certainly would fluctuate, but I don't

1 think you should try to deliberately make it fluctuate  
2 unless there are extenuating circumstances for doing  
3 so.

4 MADAM CHAIR: Do you disagree, though,  
5 Mr. Benson, that the allowable cut could indeed be  
6 either higher or lower but even out over a five-year  
7 period or even out over a 20-year period and that's  
8 engineered into the planning process?

9 THE WITNESS: Yes. To accommodate the  
10 market demands for the mills, yes. You can have that  
11 fluctuation over a certain period of time, five years,  
12 ten years.

13 MR. HANNA: Q. That's precisely the  
14 issue that I wanted to address, Mr. Benson; that is, we  
15 have heard about the need for fluctuations for, for  
16 example, market conditions and those types of things.

17 The question is: When to know when the  
18 fluctuation is still within the limits that you can  
19 accept and when you have gone outside those limits and  
20 the problem is, at what point do you cut it off. Do  
21 you understand what I mean?

22 How far can you let the fluctuations go  
23 over a period of time before you have basically stepped  
24 outside the bounds of sustained yield, as you would  
25 define it? Do you understand that concern?

1                   A. Yes. The fluctuation, if you look at  
2 a five-year period, you are looking at a five-year  
3 allowable cut, a separate allowable cut for each year  
4 and it totals up to a sum for five years.

5                   Within those five years you could allow  
6 to fluctuate, but if you wanted to maintain the forest  
7 to produce a sustained yield you would not want the  
8 total of that allowable cut over the five years to go  
9 beyond the amount that would not allow you to sustain  
10 the yield of the forest.

11                  Q. That's exactly what I was going to  
12 put to you. I'm happy to have it come from you.

13                  The question is: Each time the plan  
14 comes up from renewal, that the measure in terms of  
15 whether or not you have achieved sustainable yield  
16 should be based upon that five-year history and perhaps  
17 looking even further back into history to see how  
18 things have gone and that's the basis upon which you  
19 should measure whether or not the plan has met the  
20 performance criteria in terms of sustainable yield that  
21 you have set out.

22                  Is that a fair -- I'm looking at it from  
23 on operational point of view. I want you to understand  
24 where I'm coming from here. I'm looknig at some way to  
25 make this operational in a performance measure that can



1 be used on a recurring basis in the timber management  
2 planning process?

3 A. We're basically saying, comparing the  
4 allowable cut to the actual cut.

5 Q. But you have to fix the period. The  
6 point is that you have to fix the period at some point  
7 or another because otherwise you keep saying: Well, we  
8 will make that up some time in the future.

9 And the point is: What is an appropriate  
10 time frame over which to evaluate whether or not you  
11 have met the sustainable yield criteria that you have  
12 set out?

13 A. At present, a five-year period and  
14 historically it has been five to ten years and I think  
15 that's an adequate time frame. Up to 10 years would be  
16 adequate.

17 Q. Up to 10 years?

18 A. Up to 10 years would be adequate.

19 Q. All right. Now, the difficulty I  
20 have with 10 years is this: We review the plans every  
21 five years, how would you propose dealing with  
22 basically carrying over - because that's what you would  
23 end up with if you used a 10-year period - carrying  
24 over that overcutting or perhaps undercutting to the  
25 next plan, next series of plans?

1                   A. I didn't mean to complicate it with  
2                   the 10. You can do it at five years if you like, but I  
3                   think you could do it up to 10 years.

4                   With the present system of five years,  
5                   your plans do it every five years, but I think from the  
6                   point of view of -- it could be done -- for balancing  
7                   out the harvest, it could be done over a 10-year  
8                   period.

9                   MR. MARTEL: Could you cut, though, for -  
10                  I think Mr. Hanna said - 10 years overcut and still  
11                  maintain sustained yield?

12                  I mean, that's what happened - it would  
13                  appear to me at least - in Temagami. Maybe I'm wrong,  
14                  but you can't continue to overcut and somewhere at the  
15                  end all of a sudden produce enough trees to make up for  
16                  your shortfall.

17                  THE WITNESS: Perhaps I misunderstood  
18                  then. I didn't catch --

19                  MR. MARTEL: Maybe I misunderstood.

20                  THE WITNESS: I didn't catch the 10-year  
21                  overcut. I thought it was 10 years -- you could  
22                  balance it out over a period of 10 years so that your  
23                  total cut equalled your 10-year allowable cut.

24                  MR. HANNA: Q. Yes. I think Mr.  
25                  Martel's point is that if you go -- if you keep adding

1 on to the time frame, at some point or another you have  
2 to set that time frame. If the time frame was longer  
3 than that, then you may have a period of overcutting  
4 that may have to be balanced at some point with  
5 undercutting, but that overcutting may lead to  
6 consequences that have, from a temporal point of view,  
7 serious implication in terms of the forest.

8 A. Yes, it could. You could calculate  
9 it out on a yearly basis, too, what your allowable cut  
10 should be. You could work it that way also, work with  
11 the different --

12 Q. But the difficulty with that then  
13 would be that it would be very difficult to accommodate  
14 the types of factors we have talked about, market  
15 fluctuations, disease, salvage operations, all those  
16 types of things.

17 You have to decide on some reasonable  
18 boundary around which you are going to determine  
19 whether or not you have overcut or not.

20 MADAM CHAIR: Mr. Benson's answer was 10  
21 years.

22 MR. HANNA: Q. Then I ask Mr. Benson, in  
23 terms of a 10-year period how would you propose to deal  
24 with that on the renewal of a plan every five years,  
25 determining whether or not you have achieved

1 sustainable yield?

2 A. It could be up to 10 years, but  
3 realizing the existing planning system, five years. Do  
4 it every five years then and balance it out on a  
5 five-year basis.

6 Q. Is that in the terms and conditions  
7 that you are aware of at the present time of Forests  
8 for Tomorrow?

9 A. I would have to check it  
10 specifically, but there were reporting conditions put  
11 in there to try to balance out the harvest and the  
12 allowable cut, and there was also a number of  
13 conditions put in there to measure the state of the  
14 forest, the growing stock, et cetera. So it would all  
15 reflect whether you are sustaining that forest.

16 Q. No, I understand that, but what I  
17 am -- and perhaps you can look at this over the break  
18 for me.

19 I am asking the parts that you  
20 incorporated in the terms and conditions or that you  
21 are aware of in the terms and conditions that state  
22 that the measure of sustained yield will be evaluated  
23 on a five-year recurrent basis. That's the issue.

24 I understand that all those other things  
25 are there, but the point is, is that I'm looking at a



1 performance criteria that can be used to evaluate the  
2 past practices in a forest management unit.

3 A. All right. I can check that out.

4 Q. Thank you. Now, Chapter 2 of your  
5 witness statement deals with the process of calculating  
6 allowable cut. It starts on page 11.

7 As I understand it, you are advocating as  
8 an alternative to the OWOSFOP approach a long-term  
9 sustainable yield approach be used instead; is that  
10 correct?

11 A. Not exactly. The long-term  
12 sustainable yield indicates what the maximum possible  
13 production would be from the unit.

14 Within that, depending upon the age-class  
15 structure of the forest, you have a maximum sustainable  
16 yield that you can have available at a particular  
17 period of time. That maximum sustainable yield level  
18 can be and usually is, or will be lower than what the  
19 long-term sustained yield level is.

20 Q. Yes, I understand that. Perhaps I  
21 used the wrong terminology. You are advocating a  
22 maximum sustained yield approach as opposed to the area  
23 based OWOSFOP method?

24 A. Right.

25 Q. The basic difference between the

1 OWOSFOP approach and what you are advocating is that  
2 one is an area based, a weighted area based approach,  
3 and the approach that you are proposing is a volume  
4 based approach?

5 A. That would be a fundamental  
6 difference, yes.

7 Q. I take it you are familiar with the  
8 FORMAN model?

9 A. Yes.

10 Q. Now, is the FORMAN model along -- a  
11 maximum sustainable ability yield approach of the type  
12 that you are advocating?

13 A. You can set it up so it will do that,  
14 yes, but you have to -- in that model you can put in a  
15 number of different conditions and you could run it  
16 that way, yes, it's possible.

17 It's a little more -- the model has a  
18 number of different features you can incorporate into  
19 it. You could put that into it.

20 Q. Is it fair to say that the technology  
21 is currently available to implement the maximum  
22 sustained yield approach that you are advocating?

23 A. It should be possible, yes.

24 Q. Now, in terms of addressing the  
25 concern that you have raised in terms of the procedure

1 for undertaking allowable cut projections, would your  
2 concerns be addressed if the Ministry were to adopt the  
3 FORMAN model as the primary basis for calculating  
4 allowable cut and discard the OWOSFOP method?

5 A. Again, it could be, but it would have  
6 to be specified that one of the criteria was to set it  
7 up for that maximum sustainable level, rather than --  
8 that that would have to be a specification that would  
9 have to be run into the program.

10 Q. What other type of specification  
11 might be used in lieu of that that would violate your  
12 concern?

13 A. Well, you can set up a number of  
14 different specifications in it. For example, it can  
15 consider cost. If you wanted to minimize your  
16 silviculture costs, that might not allow you to achieve  
17 a sustained yield level, your harvesting levels could  
18 be different. If that was one of your primary  
19 objectives.

20 Q. I see. So what you are saying is you  
21 would want to see, as any run of the FORMAN, a  
22 constraint in terms of the harvest limits, that they  
23 met a sustainable yield criteria. Is that...

24 A. That's right. I think within -- when  
25 I say that, too, there is always exceptions that can

1 occur depending upon the age-class structure of the  
2 forest, but I think those particular arguments would  
3 have to be made individually and well justified before  
4 you accepted them.

5 Q. Have you an alternate specific  
6 predictive tool that you are coming forward with to  
7 incorporate in the provincial timber management  
8 planning process to implement the concerns that you  
9 have brought forward?

10 A. I didn't have any particular tooling  
11 method. There's a number of ways that you can do the  
12 calculation of determining a maximum sustainable yield  
13 level. There are different tools that you can use to  
14 achieve the same effect. There wasn't any particular  
15 one I favoured.

16 Q. I would like now to turn to page 42  
17 of Exhibit 1604A. This is Section C which is entitled:

18 "Management plans do not contain or do  
19 not indicate the historical development  
20 of their management."

21 You then list a series of items that you  
22 feel should be included in the historical record in  
23 timber management plans; correct?

24 A. Yes, I do.

25 Q. The first item that you indicate



1 should be included as part of the historical record of  
2 the plan is the amount of area in working groups in a  
3 working group over time?

4 A. Correct.

5 Q. Now, interrogatory No. 3 and 4 by the  
6 OFAH, which is Exhibit 1636, dealt with this matter of  
7 historical data that was available and I would like to  
8 just go through those if I could with you.

9 MS. SWENARCHUK: It is Exhibit 1636, Mr.  
10 Benson. It looks like this (indicating). You can have  
11 mine if you can't find yours.

12 MR. HANNA: Q. Question 3(1) asked how  
13 long a record is proposed to be included in the timber  
14 management plan to show its success, and the response  
15 that was provided was: As long as possible.

16 Can you be any more specific than that?  
17 I'm looking at -- again, I emphasize to you the reason  
18 I ask this question is I'm trying to understand the  
19 type of term and condition that should be placed upon  
20 the Ministry and the forest industry when they are  
21 preparing timber management plans in terms of  
22 specifically how long a record and what the record  
23 should contain. That's the reason I'm interested in  
24 understanding this.

25 So I am asking you how long a record

1       should be contained in a timber management plan is  
2       reasonable.

3                   MADAM CHAIR:   Excuse me, Mr. Hanna.   Are  
4       you asking how long -- obviously Mr. Benson is saying  
5       that it is an ongoing record, that it will continue.  
6       That's very clear from his answer, but are you saying  
7       in the written portion of the timber management plan  
8       that the public sees?

9                   MR. HANNA:   There's two issues, Madam  
10      Chair.   The first is, when the Board's decision comes  
11      down that will set, of course, a timber management  
12      planning process and if the Board can say:   All timber  
13      management plans must have a record back to 1950, just  
14      to pick a date, then that would put in place the need  
15      for that information to be collected and put in timber  
16      management plans, and if we went with the Industry's  
17      proposal that would be put in the information database  
18      that they are proposing to produce and whatever.

19                   If it's just left open, a lot of  
20      historical data may not be brought into the timber  
21      management plans.

22                   MADAM CHAIR:   So your question first  
23      question is whether Mr. Benson thinks that the Ministry  
24      should recreate the historical records.

25                   MR. HANNA:   Or how far back --

1                   MADAM CHAIR: Or should it go back in  
2 time and create a record?

3                   MR. HANNA: Yes.

4                   THE WITNESS: When I said as long as  
5 possible, I was considering the practical limitations  
6 because of changes in management unit boundaries and  
7 whether the records exist or not.

8                   I think it would be good to have it go  
9 back as long as you can if the data exists. That's why  
10 I would find it difficult to say: Go back to 1950 or  
11 1940 or whatever because it may not be possible for  
12 many management units to take it back that far, whereas  
13 for some it might be possible.

14                  MR. HANNA: Q. Just to give you an  
15 example. One of the things that you possibly could do  
16 is obtain archival air photos and go back and attempt  
17 to create from archival air photos what the forest  
18 conditions were and develop basically FRI maps for  
19 nineteen whatever.

20                  It's a matter of what is practical in  
21 terms of how far back we should attempt to recreate  
22 history of a forest management unit. Can we define it  
23 in a reasonable way?

24                  MADAM CHAIR: Excuse me. Are we more  
25 concerned with the past? Do we want to go back 40 or

1 50 or 60 years in the past, or is your concern more  
2 with setting up a system that will ensure in the future  
3 you have accurate historical records?

4 THE WITNESS: It's more a concern with  
5 setting up what it should be for the future. I think  
6 in some units you wouldn't have to go to the detail  
7 specified to know what's happened.

8 For the Temagami unit, we know there has  
9 been a reduction in the white pine forest. How much  
10 has it been reduced? I imagine you could try to  
11 measure that and come up with a variety of different  
12 answers, but I don't think it's really too important to  
13 try to put an exact number on that rather than just  
14 realize that it has been reduced and where are you  
15 going to take that in the future.

16 MR. MARTEL: Would the best starting date  
17 then be the beginning of, for example, the forest  
18 management agreements where more substantial records  
19 were kept and prior to that?

20 THE WITNESS: Again --

21 MR. MARTEL: Would that be the pick-up  
22 point maybe?

23 THE WITNESS: It wouldn't work for all  
24 management units where the boundaries have changed and  
25 where it's difficult to transfer data.



1                   A starting point could be when the  
2       inventory system came into being for a particular  
3       management unit where you had the first inventory  
4       carried out.

5                   MR. HANNA: Q. Are you suggesting that  
6       would be a reasonable point then to start?

7                   A. I think that would be a reasonable  
8       point, yes.

9                   Q. Now, on page 42 you indicate under  
10      Section I that:

11                   "If the area of a working group decreases  
12                   without being planned for it indicates a  
13                   critical problem in the management of the  
14                   area."

15                   Now, it's fair to interpret then that  
16       there may be changes in the proportion of the working  
17       group within a forest management, the key issue is that  
18       it's planned? Is that the key word in that sentence?

19                   A. Yes.

20                   Q. So that it is possible that in order  
21       to achieve your aim that you have set out of maximizing  
22       net present worth that you may wish to alter the  
23       current proportion of area in different working groups?

24                   A. Yes. You could plan to change  
25       working groups for one reason or another, yes.

1 Q. And would you agree that the critical  
2 issue is that when such changes are being planned that  
3 the implications are clearly expressed in terms of  
4 forecast over time and space, what the implications are  
5 to all resource benefits?

6 A. Yes.

7 Q. So it's not --

8 MADAM CHAIR: Excuse me. Are we talking  
9 about a stand or a working group over an entire  
10 management unit?

11 MR. HANNA: Mr. Benson's interpretation  
12 is the important one.

13 THE WITNESS: I think what we were  
14 talking about was a working group over a management  
15 unit and the amount of area in that working group.

16 So whether you are adding two or losing  
17 area from that particular working group -- that was my  
18 understanding.

19 MR. HANNA: Q. Now, perhaps just to take  
20 off where Madam Chair noted. In terms of stand  
21 management, what is your view of the level at which  
22 timber management -- the analysis of timber management,  
23 silvicultural activities has to take place? Is it at  
24 the working group level or at the stand level?

25 A. I'm sorry, I didn't get the gist of

1       that question.

2                   Q. All right. We have talked over the  
3 last little bit over the need to predict and forecast  
4 changes in terms of both timber and non-timber  
5 benefits, to analyse net present worth and do  
6 quantitative analysis, all those types of things.

7                   Would you agree with me in order to  
8 undertake those types of analyses one must look at the  
9 spacial distribution of the stands within the forest  
10 and not simply total area of a working group?

11                  A. Yes, that's certainly part of it,  
12 sure.

13                  Q. So one measure would be the total  
14 area of the forest in terms of the working group area,  
15 but you would also want to look below that at the  
16 actual stands themselves in many circumstances?

17                  A. Well, you mentioned spacial  
18 distribution--

19                  Q. Yes.

20                  A. --and that would be important, yes.

21                  MADAM CHAIR: Are you suggesting, Mr.  
22 Benson, that the forester would be obliged, every time  
23 something is done with a specific stand, to report on  
24 that in some way or are you saying at the end of the  
25 year the entire management unit is looked at and those

1 points are mentioned?

2 THE WITNESS: No, Madam Chair. What we  
3 are looking at is a change in the forest structure over  
4 time and I don't think we really put a time period on  
5 this, but as management plans are rewritten every five  
6 years, establishing a point every five years is what I  
7 would think would be feasible, not every year.

8 MR. HANNA: Madam Chair, just so you are  
9 clear, my client wasn't suggesting in way any that each  
10 time a stand is altered that that should be reported  
11 upon. We are also looking at it on a five-year basis  
12 and that is the time frame and type of analysis that I  
13 was suggesting.

14 Q. Now, in order to forecast changes in  
15 working group and stand characteristics, would you  
16 agree that that requires the use of some type of forest  
17 succession model associated with silvicultural  
18 prescriptions?

19 A. Yes, you have to have an idea of  
20 what's going to happen to the different areas depending  
21 upon the way they are treated.

22 Q. Right. And so the two key components  
23 in that is understanding the silvicultural treatment in  
24 terms of specifically what's going to happen on the  
25 site and, secondly, what the biological or forest



1 response is going to be to that site type that you are  
2 going to produce or modify through silvicultural?

3 A. Yes.

4 Q. Now, is it your experience that such  
5 forecasts are routinely being prepared as part of  
6 timber management planning in the province at the  
7 present time, forest succession?

8 A. In a very rough sense, it's -- not in  
9 great detail. When the silvicultural work is being  
10 planned, it is planned for achieving a plantation of a  
11 certain working group, but the success required for  
12 that plantation can be 40 per cent of the desired  
13 species which means that you have a range of 60 per  
14 cent there that may be composed of that species or  
15 other species, and that can certainly give a different  
16 stand structure than -- a difference between 40 and 100  
17 per cent can result in quite a different stand.

18 Q. So the major difference then that you  
19 are advocating is greater specificity in terms of the  
20 forecast of the stand structure in the future rather  
21 than leave it in broad ranges, to be more specific --  
22 I understand there is uncertainty, but be as specific  
23 as possible?

24 A. Yes. There certainly is uncertainty  
25 and to be as specific as possible, yes.

1                   Q. Now, interrogatory No. 4(1) asked for  
2 the definition of working group that you used through  
3 your report and you indicated that the definition was  
4 based upon species dominance of merchantable trees;  
5 correct?

6                   A. That's correct.

7                   Q. Would you agree that there may be  
8 significant ecological variation within a working group  
9 so defined by dominant merchantable trees such that a  
10 broad level of categorization may not be sufficient to  
11 deal with a number of ecological issues associated with  
12 forecasting and evaluation timber management  
13 activities?

14                  A. That's quite true. Even probably  
15 more so in the tolerant hardwood areas in the boreal  
16 forest.

17                  Q. Is it fair to say then that you would  
18 support the use of a finer classification of forest  
19 types than working groups to prescribe silvicultural  
20 practices?

21                  A. By finer, do you mean area wise or in  
22 terms of describing an area?

23                  Q. I mean both. In terms of -- I'll be  
24 coming to the area question in a moment, let's just put  
25 that aside for the time being and specifically talk

1 about the ecological characteristics of the stand.

2 I am leading to dealing with FECs, forest  
3 ecosystem classification types, whether if a finer  
4 description of the ecology of the stand was used as the  
5 basis for silvicultural prescriptions that would be  
6 than improvement in your view?

7 A. Yes, that would be an improvement.

8 Q. Now, interrogatory 4(3) asked you  
9 whether FECs could be used as the basis for prescribing  
10 harvest and assessing the regeneration performance,  
11 and you indicated: No, because the relationship of the  
12 site types to the type of harvest and silvicultural  
13 treatment must be determined?

14 A. Correct.

15 Q. I don't disagree with that statement  
16 within a certain limit of precision, but the question  
17 that I have to you: Do we have a site classification  
18 system in the province at the present time, be it  
19 working group, FRI stand types, FECs, or any other type  
20 of classification for which we have a sound  
21 understanding of the relationship between site, type of  
22 harvest and silvicultural treatment?

23 A. One that can be practically used at  
24 the present time across the province?

25 Q. Yes.

1 A. No.

2 Q. So the response that you have given  
3 here in terms of the difficulties with FECs, it applies  
4 to all. It isn't because of FECs, it is because of our  
5 lack of knowledge of those relationships?

6 A. Yes, that's right. That's been  
7 around for quite awhile, that particular problem.

8 Q. Now, the issue that or the concern  
9 that I have is what do we do in the interim. What do  
10 we do -- I recognize, my client recognizes limitations  
11 of our knowledge in terms of those relationships. We  
12 can't stop the world and wait until he get the  
13 knowledge and start again.

14 What do we do in the interim? Is using  
15 FECs and starting along that road and using a finer  
16 ecological classification system and setting up, how  
17 should I say, a process to start improving our  
18 knowledge, is that not a step in the right direction?

19 A. It is a step in the right direction,  
20 but I think in the province when you take a look at the  
21 silvicultural part that there has been a great deal of  
22 silvicultural work completed across the province over  
23 the years and that information hasn't been documented  
24 or retained in the best manner possible.

25 You would have to go back to my time, but



1 when you were a unit forester then, when you went to a  
2 new management unit you pretty well had to pick up the  
3 pieces and try to learn what worked in that area and it  
4 took a few years to become familiar with the unit and  
5 to see the unit, to see what different methods had been  
6 tried in the past in different areas and to try to put  
7 them together.

8 I always thought it was unfortunate that  
9 this material was never documented by a management unit  
10 so that it would make it much easier for people in the  
11 future to see what worked, what didn't work and perhaps  
12 even refine it somewhat better to determine under what  
13 circumstances didn't it work.

14 Q. Are you familiar with the proposal by  
15 the forest industry to develop a database on a forest  
16 management unit level?

17 A. I would have to look at it again to  
18 know the details.

19 Q. Okay. I don't want to get into  
20 details. Is it fair to say that what you see as  
21 necessary is the development of a consistent database  
22 that would provide a historical record for subsequent  
23 unit foresters to rely on in terms of silvicultural  
24 treatments and performance?

25 A. Yes, that would be correct.

1 Q. Now, are you familiar with the  
2 adaptive management approach as advocated by Dean  
3 Baskerville?

4 A. No, I'm not.

5 MADAM CHAIR: I think you are our first  
6 witness who hasn't been familiar with that. That's not  
7 a criticism, Mr. Benson, I say that almost with relief.  
8 We can move on.

9 MR. HANNA: Madam Chair, I believe Dr.  
10 Hutchinson also, so we've had two.

11 MADAM CHAIR: Oh, thank you, Mr. Hanna.  
12 Good.

13 MS. SWENARCHUK: You're welcome, Madam  
14 Chair.

15 MR. HANNA: Q. You had indicated that  
16 you have read -- Madam Chair, can I have just a moment,  
17 please.

18 MADAM CHAIR: Sure.

19 ---Discussion off the record

20 MR. HANNA: Q. Can we look at  
21 interrogatory No. 4.6, please, Mr. Benson, and that  
22 asked about the level of specificity in terms of the  
23 site. Specifically the question was:

24 "Please explain what is meant by site in  
25 terms of the level of specificity that is

1 expected."

2 And you indicate the level -- in response  
3 F, you indicate:

4 "The level of specificity is the level  
5 that provides the information required."

6 That's a hard statement to argue with.

7 I guess what I'm looking at is, from an  
8 operational point of view in trying to standardize the  
9 timber management planning process what is a reasonable  
10 level of detail to require in a timber management plan  
11 for silvicultural prescriptions in terms of site?

12 A. Do you mean in size of area?

13 Q. I'm sorry?

14 A. Minimum size of area, is that what  
15 you mean or...

16 Q. No. In your slides you had indicated  
17 that on a number of occasions, particularly in the more  
18 rugged and rolling terrain, that in a small area you  
19 may have a variety of sites intersected by one  
20 silvicultural activity and that that difference in site  
21 maybe a reflection of soil moisture, soil type, soil  
22 depth, a whole variety of factors.

23 The question is: What level of  
24 specificity should be incorporated in the timber  
25 management plan - I am thinking now specifically in

1 groundrules - that should set out the silvicultural  
2 prescription?

3 Like, right now we have working group and  
4 I understand that you feel that is not an adequate  
5 level of specificity; is that correct?

6 A. Well, within that working group you  
7 can have a variety of sites, you can have a variety of  
8 trees growing within a working group.

9 It's very difficult to treat that whole  
10 area, so you are going to treat each part of that area  
11 the best way possible because of the variety that you  
12 are going to encounter in the area.

13 Now, how is practical to treat each site?  
14 I think --

15 Q. I am asking for your best judgment of  
16 what is the practical level at which the site should be  
17 addressed, the type of variation that you have  
18 described in your evidence-in-chief?

19 A. Well, the practical level, I think it  
20 goes down to what's the minimum size of area that you  
21 can operate on, and there have been different estimates  
22 made of that in the past which I believe were 15 acres;  
23 in that particular range. That would be the minimum  
24 size you would want to consider.

25 If you looking at a large area, would you



1 want to break it up into those small categories.  
2 That's why I answered it that way. You really want --  
3 depending upon the type of information that you want  
4 for that particular area, and that's why I also showed  
5 that approach in the chapter to provide for that  
6 variety of diversity by trying to provide different  
7 sizes of area and trying to provide those with natural  
8 regeneration methods because then you are trying to  
9 allow the natural process to regenerate the area the  
10 best way it can rather than trying to apply a  
11 particular silvicultural method that may or may not be  
12 the best for a particular site.

13 MADAM CHAIR: Doesn't that proposal, Mr.  
14 Benson, almost make it not as necessary to be as  
15 specific in the groundrules?

16 THE WITNESS: Yes, that's correct.

17 MADAM CHAIR: Well, for example, let's  
18 think of one of the many slides that you showed where  
19 you had two conditions on the same site, you had a  
20 lowland area and you had an upland area, and if you  
21 were writing the silvicultural groundrules for what we  
22 can see in one of those slides - and I don't know how  
23 many hectares they were, but they are extraordinarily  
24 large - then what would you actually say in your  
25 groundrules?

1                   THE WITNESS: The silvicultural  
2                   groundsrule for that?

3                   MADAM CHAIR: Yes.

4                   THE WITNESS: Well, I would go with the  
5                   silvicultural groundrules that we laid out for Forests  
6                   For Tomorrow.

7                   MADAM CHAIR: So if you were looking  
8                   at -- I can't remember the details of it, but if you  
9                   are looking at an upland and lowland pine site, red  
10                  pine site, then it is very specific in your proposed  
11                  groundrules that you would try to use natural  
12                  regeneration, you would harvest that way in order to  
13                  have that result?

14                  THE WITNESS: That's correct.

15                  MADAM CHAIR: How much more specific  
16                  would you be in the groundrules than that?

17                  THE WITNESS: I wouldn't be any more  
18                  specific in those particular groundrules, no.

19                  I think what -- I said I was in general  
20                  agreement with those general groundrules, too, because  
21                  things evolve and people learn as you go along and unit  
22                  foresters can certainly find that the way to naturally  
23                  regenerate their particular management unit might  
24                  require modifications of the procedure and that would  
25                  have to be taken into account.

1 MR. HANNA: Q. So is it fair then for me  
2 to take from that, that in that your extensive  
3 silvicultural proposal that there would be no site  
4 preparation?

5 A. No, extensive refers to obtaining  
6 regeneration the cheapest way possible. Now, if you  
7 had to have some site preparation to obtain  
8 regeneration, well then that would have to be included,  
9 but it might be the cheapest way possible to do that.

10 Q. Let me take a step back then. I'm  
11 looking at it -- if you are relying on natural  
12 regeneration, and that meaning simply that you cut the  
13 trees in the pattern such that the forest will  
14 naturally regenerate without any invention, then I  
15 understand the discussion you've just had with Madam  
16 Chair.

17 If natural regeneration means that there  
18 are other interventions taking place that do affect --  
19 that are a function of site, then I don't understand  
20 the discussion and that's what I want to understand.

21 Are you suggesting that the natural  
22 regeneration has no other invention other than  
23 harvesting?

24 A. No. It may require in some cases  
25 compaction of a site or some scarification of the site.

1 If you are going for natural regeneration, the trick is  
2 to try to get the site that's going to allow the trees  
3 that you want to regenerate on it naturally and that  
4 may require some type of further treatment. Preferably  
5 it wouldn't, but it may.

6 Q. All right. Let's take the example  
7 Madam Chair gave you of the pine stand, lowland, upland  
8 and let's just say, for example, lowland is a richer  
9 site and happens to have more competition on it and  
10 that we need to undertake some type of site preparation  
11 in tending activity on that site, how would that be  
12 specified in the groundrules and what level of detail  
13 would be necessary in the groundrules to specify that?

14 A. I personally wouldn't go to that  
15 level of detail in the groundrules because I think you  
16 would be tying the hands of the manager too tightly.

17 MR. MARTEL: Can I ask a question,  
18 please. If we follow that through, cut smaller, maybe  
19 a little compaction, some scarification we could get  
20 natural regeneration, what accounts for then what has  
21 been perceived by many to be the failures of the past?

22 The clearcuts certainly weren't as  
23 extensively previously as they are now, I don't think.  
24 I mean, we have moved from the horse and buggy only in  
25 the last 20 or 30 years really. What accounts for the



1 backlog of regeneration which hasn't occurred?

2 Why are we -- I mean, I am having  
3 difficulty putting the two together. It's only of  
4 recent date that we got these large clearcuts. Why  
5 isn't our success rate in the past dealing with smaller  
6 blocks been more beneficial to us?

7 THE WITNESS: There's two parts --

8 MR. MARTEL: I am missing a point. I am  
9 missing something somewhere.

10 THE WITNESS: There's two parts to that I  
11 believe. First, what's happened to the backlog and has  
12 it been successful or not successful and what has  
13 happened to it, and that has not always been clear  
14 because at some points in time it has all been a  
15 failure, at other points in time some of it has come  
16 back into production.

17 The amount of the backlog has changed,  
18 too. Logging procedures have changed and the amount of  
19 regeneration you would get from them has changed over  
20 time. We haven't really quantified that or put figures  
21 on what was a success rate for different logging  
22 procedures at different periods of time.

23 The other point on that, though, is that  
24 what I'm talking about is cutting to achieve natural  
25 regeneration, specifically to harvest in a pattern to

1 achieve natural regeneration, whereas in the past the  
2 cut method was not specifically designed to do that.  
3 So I would hope that by actually trying to cut to  
4 achieve natural regeneration or harvest in a pattern to  
5 achieve natural regeneration your regeneration would be  
6 much better than what it was in the past, that you  
7 would get better natural regeneration of the type that  
8 you wanted.

9 So there's those two particular aspects  
10 first. What is the state of the lack backlog and that  
11 seems to jump around at different times; and, secondly,  
12 if you are going to go for natural regeneration you  
13 have to work at it, not just cut an area.

14 MADAM CHAIR: Mr. Benson, getting back to  
15 Mr. Hanna's point about the specificity of the  
16 silvicultural prescriptions and the silvicultural  
17 groundrules, see if you were designing what those would  
18 look like, would you see using the same sort of forms  
19 that the Ministry now uses with respect to putting them  
20 in some kind of a category?

21 I don't know if you are familiar with the  
22 forms that identify what area is being looked at and  
23 how it is described that it will be treated and so  
24 forth. Are you saying that essentially you would put  
25 down prescriptions in perhaps the same fashion but

1 underlying that would be a data base in the management  
2 unit that the forester would be able to rely on with  
3 respect to success and failures of the various  
4 treatments that have been tried?

5 THE WITNESS: Yes. I think that should  
6 be there, yes.

7 MADAM CHAIR: But you don't have any  
8 suggestions with respect to changing what's said --

9 THE WITNESS: In the silvicultural  
10 guidellines.

11 MADAM CHAIR: Yes. You would say it in  
12 the same fashion, but it would be different because you  
13 are talking about your own -- Forests for Tomorrow's  
14 terms and conditions and how you would use those. What  
15 you are seeing is looking basically the same way as it  
16 does now?

17 THE WITNESS: I don't have any  
18 inspiration right now. I'm sure that it could be  
19 improved, but I can't say right now.

20 MADAM CHAIR: I think we should take our  
21 morning break now. We will be back in 20 minutes.

22 ---Recess taken at 10:25 a.m.

23 ---On resuming at 10:45 a.m.

24 MADAM CHAIR: Please be seated.

25 MR. HANNA: Q. Mr. Benson, before the

1 break we were discussing the matter of specificity and  
2 you indicated that you would not want to see a greater  
3 level of specificity because it would tie the foresters  
4 hands' I think was your term; correct?

5 A. Correct.

6 Q. Now, we have heard considerable  
7 evidence about the need for flexibility for foresters  
8 to practice the art of forestry, and I can tell you  
9 that my clients support supports the need for  
10 flexibility, but the question is: How to provide the  
11 flexibility and yet ensure that the public's wishes are  
12 achieved. Do you understand that?

13 A. Yes, I understand that.

14 Q. Now, it seems to me there are two  
15 ways that that can be accomplished. One is to  
16 prescribe what needs to be done in terms of this  
17 silvicultural treatment, this harvest practice, this  
18 whatever on this piece of land and therefore prescribe,  
19 in effect, the activity. You understand that is one  
20 way.

21 And the more stringent we become, the  
22 discretion of the forester, less flexibility the  
23 forester has but the greater the assurance or greater  
24 the insurance that the public has that that activity  
25 will take place on that particular site.



1 A. That's correct, but --

2 Q. Just before --

3 A. If you are interested in the end  
4 result --

5 Q. Let me finish the -- I will give you  
6 an opportunity to respond, but I just want to make sure  
7 you understand each of the conditions and then I will  
8 come back and let you comment on it.

9 The other alternative is to say to the  
10 public: This is what you can achieve off the land  
11 base, and to set that out in specific terms and then  
12 provide flexibility to the forester to assure that what  
13 the public says they want off the land is achieved.

14 Do you see that as an alternate way of  
15 coming at the problem?

16 A. I didn't quite understand your second  
17 alternative.

18 Q. The second alternative is the  
19 forester doesn't necessarily say how exactly something  
20 is going to be achieved in specific terms on specific  
21 sites, but what is said is: I can achieve for you "x"  
22 number of cubic metres of wood on an annual basis of  
23 this type and quality, I can bring produce "x" amount  
24 of the forest habitats of "x" types and quality, et  
25 cetera, et cetera, and that those become, for ultimate

1 purposes, objectives of management and how those  
2 objectives are achieved are then left to the  
3 flexibility and discretion of the forester.

4 A. Okay. I understand the two and --

5 Q. Go ahead.

6 A. You had a question on the two then?

7 Q. Yes. Now the question is: If you  
8 have -- if you go with the second approach which sets  
9 out these are the performance measures that we are  
10 going to use, you have to assure us that you are going  
11 to provide us this amount of wood on a continuous basis  
12 over this period of time, you are going to provide for  
13 us this amount of habitat over this period of time,  
14 this amount of recreational activity over this period  
15 of time, et cetera, is that not sufficient?

16 I mean, is that not a way to achieve the  
17 flexibility that you are requiring?

18 A. It is a way. I think for that,  
19 though, what I was talking about when not tying their  
20 hands down has to do with recognizing or developing the  
21 best extensive silvicultural method to attain that  
22 regeneration that you want.

23 It ties into what we were talking about  
24 before, record keeping or historical record or  
25 silvicultural record of what works where. They all

1 have to come together.

2 If, for example, we knew exactly how to  
3 achieve the best result on each and every particular  
4 site, well we could write it into the terms and  
5 conditions and be very specific about that, but I don't  
6 think we can do that at this time, so you have to allow  
7 for certain flexibility so we can find out what are  
8 those -- the better methods that will work.

9 Q. Let me give you a hypothetical and  
10 the hypothetical is this: We have perfect knowledge of  
11 the consequences of silvicultural techniques in terms  
12 of regeneration. So I can tell you if I use a Brackie  
13 scarifier on this site, that is what I am going to  
14 achieve in term of black spruce; if I use a strip cut,  
15 naturally regeneration site with no site preparation,  
16 here is what I am going to achieve, et cetera, et  
17 cetera, and I have that knowledge, perfect knowledge,  
18 no uncertainty, no unknowns associated with it, are you  
19 still of the opinion that you could specify the best  
20 treatment for each site?

21 The reason I put that hypothetical to you  
22 is, how do you deal with the spacial component; in  
23 other words, from a forestry point of view space has  
24 some implications in terms of access and harvesting  
25 costs, but from many of the other forest benefits, the

1       spacial structure of the forest is of supreme  
2       importance.

3                       So that even tough I know how effective I  
4       can be in terms of silvicultural treatment on a site  
5       type, I still have to look at the spacial structure of  
6       the forest and on that basis prescribe silvicultural;  
7       in other words, I just can't describe silvicultural in  
8       the abstract according to a working group, a site type  
9       or some other site classification. Do you see that?

10                    A. Yes, I understand that, but for the  
11       actual particular site you are talking about what you  
12       trying to get back on that. If you consider it in  
13       relationship to the rest of the forest, what are you  
14       trying to achieve over time in that forest, you can  
15       take into that account.

16                    I was considering from your question just  
17       a particular site, if you are trying to layout a  
18       particular silvicultural treatment to regenerate a  
19       certain species on that site, how detailed can you get.  
20       That's the way I was interpreting the question.

21                    Q. Without specifying what it is you  
22       would want to regenerate on that site and that is  
23       something you have to consider in a spacial  
24       consideration?

25                    A. That's in addition to the actual



1 silvicultural for the site. Where does that treatment  
2 fit into the overall management pattern for the whole  
3 unit.

4 Q. All right. Now back to the two  
5 approaches that I set out for you. One being, this is  
6 what you should do on that particular site or this is  
7 what we want to achieve off the land base over a  
8 certain period of time and how you do that becomes a  
9 discretionary issue.

10 Now, if we had that perfect knowledge,  
11 would you still want -- would you prefer to go with  
12 specifying: This is what you do on this particular  
13 site, or would you see it adequate to say: Here are  
14 the products that we want off the land base. You have  
15 that knowledge, Mr. Forester, Mrs. Forester, that's  
16 there, that provides you with better knowledge, but  
17 it's you that will make the decision in terms of  
18 prescribing that on a case-by-case basis?

19 A. If I get your question right, I take  
20 it you are talking about two things: One to regenerate  
21 the area and then, secondly, to regenerate that area --  
22 its effect on the other resources of the unit?

23 Q. In order to select a silvicultural  
24 prescription for a site, would you agree that you have  
25 to consider more than just trees, you have to consider

1 the implications for other resource benefits?

2 A. Yes, I would agree with that.

3 Q. Okay. So that the question becomes  
4 how do you incorporate those other resource benefit  
5 concerns in the silvicultural prescription?

6 If those other resource benefit concerns  
7 are very specific in terms of site, you either have to  
8 have silvicultural prescriptions on a site-specific  
9 level or deal with it through some other means.

10 A. Okay. The overall general siv method  
11 that I presented would cover most of the species.

12 When you get into particular species, it  
13 might require specific treatment or a particular area  
14 set aside, that's a different matter. I think that  
15 does require particular treatment or be left alone.

16 So I think in my option what I was  
17 proposing was in a way to ignore the specifics of each  
18 and every individual site, but to try to average it out  
19 so that what you are producing on the unit is going to  
20 produce that variety of habitat that is required for  
21 the different species that may inhabit it.

22 Now -- and then the part you are  
23 mentioning where you require a particular treatment for  
24 a particular species, that's a little bit different I  
25 think and only would only be required if it was an

1 endangered species I would think, but that's a  
2 different situation.

3 Q. Can we move to page 48 of your  
4 witness statement, Mr. Benson. You indicate in the  
5 second paragraph:

6 "The insidious characteristics  
7 of changes in wood supply is that they  
8 usually occur slowly over a length of  
9 time rather than as a drastic drop or  
10 rise."

11 Do you see that?

12 A. Correct.

13 Q. Are you familiar with the concept of  
14 cumulative environmental impacts?

15 A. I have heard the term, but I couldn't  
16 define it right now, no.

17 Q. Is a major reason for the insidious  
18 characteristic of wood supply changes the large scale  
19 nature of wood supply both spacially and temporally?

20 A. I don't...

21 Q. I will read it again.

22 A. Sure, go ahead.

23 Q. Is the major reason for the insidious  
24 characteristic that you refer it in your witness  
25 statement of wood supply, that wood supply -- the large

1 scale nature of wood supply both spacially and  
2 temporally?

3 A. Okay. If I take from what you say,  
4 you have to consider the production of the forest over  
5 a long period of time and what you regenerate today you  
6 don't harvest for years to come.

7 Q. That's the temporal aspect.

8 A. Right. And if you -- the other one  
9 was the space attribute?

10 Q. Spacial attribute.

11 A. If you reduce the area of a working  
12 group over time and the productive level remains the  
13 same for the working group, then you are going to  
14 reduce the allowable cut that particular way, too.

15 Q. The fact that you are only harvesting  
16 one per cent of the forest management unit, for  
17 example, in an particular year tends to add to that  
18 insidious characteristic because it isn't all happening  
19 at one time?

20 A. It makes it less visible.

21 Q. Yes. Now, wood supply is determined  
22 by the forest structure in terms of age and species of  
23 trees; correct? That's a primary factor, or those are  
24 primary factors?

25 A. I taught you were quoting. Were you



1 quoting or were you giving me --

2 Q. No, I'm sorry. I will try --

3 A. I was looking for the quote.

4 Q. I will let you know when I am  
5 quoting.

6 A. Okay.

7 Q. Wood supply is determined by the  
8 forest structure in terms of age and species of the  
9 trees to a large extent?

10 A. Yes, and the criteria that you apply  
11 to manage that structure.

12 Q. Yes. Would you agree that the same  
13 insidious characteristics of wood supply apply to  
14 changes in the supply of other resource benefits  
15 depending upon the same forest structure?

16 A. Yes, that's correct.

17 Q. Would you agree then that in order to  
18 evaluate these insidious characteristics for both wood  
19 and non-wood benefits one must forecast the age and  
20 species structure of the forest in space and time over  
21 a sufficiently long period of time to evaluate the  
22 implications?

23 A. Yes, that's correct.

24 Q. Can we move to Chapter 4 of your  
25 report, Mr. Benson. The first section deals with

1 optimizing and maximum; correct?

2 A. Right.

3 Q. And you speak about production  
4 functions for various forest resources, and I just want  
5 to confirm that you support the development and  
6 application of production functions for both timber and  
7 non-timber resources in timber management planning?

8 A. Yes, I do.

9 Q. The Board has heard evidence from  
10 Dean Baskerville dealing with production functions and  
11 he has provided examples to them of what he has termed  
12 habitat supply analysis. Are you familiar with that  
13 general concept?

14 A. I'm not familiar what what they're  
15 doing in New Brunswick in that line, no.

16 Q. Now, on pages 53 and 54 you  
17 provide -- at the bottom of page 53, carrying over to  
18 54 you provide an example of how different forest  
19 structures could have different implications for  
20 different resource benefits. You talk about moose,  
21 aesthetics and I think you talk about wood.

22 You are speaking there strictly in terms  
23 of rotation age; correct?

24 A. Of managing the forest to a certain  
25 rotation age, right.

1                   Q. Now, in looking at these types of  
2 alternatives, would you agree that for all practical  
3 purposes there are an infinite array of alternative  
4 combinations you could come up with in terms of, how  
5 should I say, compromising between the different  
6 elements?

7                   Like, you use 35 years and 70 years, we  
8 could take 42, we could 42.5, there is a complete  
9 arrange of options available to us just in terms of  
10 rotation age alone?

11                  A. There is a range, but I wouldn't say  
12 it was infinite. There is a certain level where you  
13 would have to say that the rotation age that you are  
14 looking at isn't reasonable. So there is some certain  
15 numbers from one to whatever. So, it's not infinite,  
16 no, but there can a large number.

17                  Q. If you are just looking at rotation  
18 age?

19                  A. Correct.

20                  Q. When I introduce other factors that  
21 may be equally important in terms of the production of  
22 the resource benefits from the land base the numbers  
23 can get very, very large, particularly if I look at  
24 spacial distributions and spacial distributions over  
25 time?

1                   A. Yes, and that can introduce more  
2 variation into it. You can, it just depends what  
3 particular land base you are working with.

4                   If you make the assumption that you are  
5 going to work with a land base that have a certain  
6 spacial distribution, then you've taken care of that  
7 factor at that time.

8                   Q. Are you back to your siv approach  
9 now?

10                  A. Well, a subdivision of that. If you  
11 said that in a certain area we are going to manage for  
12 area sensitive species, well then that could be  
13 managed. You have taken care really of that particular  
14 time element.

15                  Q. Time element?

16                  A. I'm sorry, space element.

17                  Q. Well let's -- perhaps it is important  
18 to understand this before I go on.

19                  Let's say we designated an area, then as  
20 I understand what we are talking about now is basically  
21 single use designations or priority use designations  
22 for areas. Is that what you are -- is that the essence  
23 of what you are proposing?

24                  A. Well, if you are going to provide for  
25 the different species with a wide siv approach, what I



1 was saying is you would be providing for area sensitive  
2 species and for others that did not -- you would be  
3 providing the diversity for the other species.

4 Now, the question then would be: How are  
5 you going to make that division. How much area would  
6 go to the area sensitive species, how much area would  
7 go to the other species. If you resolve that question,  
8 then really you have taken care of the space part, that  
9 you have a certain area that you say you are going to  
10 manage for area sensitive species.

11 Q. Let's keep this as simple as possible  
12 and let's make a rectangular forest management unit and  
13 we say 25 per cent is going to be area sensitive  
14 species, so we take one block, the top left quadrant  
15 become an area species quadrant, area sensitive species  
16 quadrant. You understand that?

17 A. Right.

18 Q. Now, even within that quadrant, are  
19 there not a great number of potential spacial  
20 configurations that we might achieve there that might  
21 meet the priority, the area sensitive species priority,  
22 and still provide the benefits for other lower priority  
23 uses?

24 A. Yes, that's possible.

25 Q. So it doesn't revolve the space

1 issue. It may provide some direction, but it still  
2 doesn't resolve it. We still have a large number of  
3 potential possibilities?

4 A. Yes, you always can. I was trying to  
5 simplify it to what was the objective for the  
6 particular area, you can narrow down your options  
7 somewhat.

8 Q. It can become even more complicated  
9 if in fact the plan is designed such that that quadrant  
10 migrates over the area of the forest management unit  
11 with time?

12 A. It could, but what I was saying was  
13 that if you have that portion of the management unit  
14 that that quadrant is going to migrate over time set  
15 aside, then that separates it from the area that you  
16 are going to manage for more diversity, the smaller --

17 Q. But there can be very high risk in  
18 doing that in the sense that if that happens to be  
19 where a forest fire decides to burn, it can be left  
20 high and dry.

21 You may well want to manage a system to  
22 have to resiliency and back-up and you may not just  
23 want to block it out into simple quadrants and say  
24 that's our area sensitive species quadrant. It is not  
25 a simple problem, that's really all I am trying --

1                   A. No, and you have to be flexible and  
2 if the uncertainty of a forest fire occurs, then you  
3 would have to make adjustments for it.

4                   Q. Can you look at Exhibit 1281 which is  
5 the transcripts of testimony that Dean Baskerville  
6 provided to the standing committee on forestry and  
7 fisheries. It was a subcommittee dealing with the New  
8 Federal Department of Forestry.

9                   If you can turn to page 15, this is issue  
10 No. 11. I am just going to read to you a quotation  
11 from his testimony and then I would like to get your  
12 opinion on it. I am going to read the second and third  
13 paragraphs on page 15.

14                  MADAM CHAIR: Excuse me, Mr. Hanna. How  
15 do we find page 15?

16                  MR. HANNA: It is at the top, Madam  
17 Chair, you will see 11:15.

18                  MADAM CHAIR: The right, the left top?

19                  MR. HANNA: It changes.

20                  MADAM CHAIR: 11:15 is what...

21                  MR. HANNA: Yes.

22                  MADAM CHAIR: I have got 11:16 and  
23 then -- oh, here it is. Okay. Thank you.

24                  MR. HANNA: Q. Paragraph 3 starts:

25                  "We cannot manage that way..." and he is

1 referring to the matter of using constraints.

2 "The most important issue, to go back,  
3 Mr. Chairman, to defining what we could  
4 have is to make it possible to offer six  
5 production possibilities from a forest  
6 and for each one be able to show how much  
7 timber you get, what it would cost you  
8 in terms of silviculture to grow it,  
9 what it would cost you in terms to  
10 delivering it, what wildlife you would  
11 have for, say, half a dozen target  
12 population and what recreational  
13 opportunities you would have in some  
14 measurable manner so that you could  
15 compare the opportunities. We do not  
16 have just one thing do, our problem is  
17 choice. The hardest part is to get  
18 people to understand that they do have  
19 choice."

20 Now, it is the last paragraph that I am  
21 particularly interested in, the matter of choice. Do  
22 you agree that it is an essential element in timber  
23 management planning that a choice of production  
24 possibilities is made available rather than a single  
25 proposal?



1                   A. Yes, I think that's important and  
2                   that that choice covers as many of the other uses as  
3                   possible.

4                   Q. That the range of choices deals --  
5                   let me start again. With each alternative, that a full  
6                   range of benefits is expressed in terms of the  
7                   implications?

8                   A. Right.

9                   Q. And that the range of alternatives  
10                  available reflects a reasonable range of the  
11                  possibilities that can be achieved from the land base  
12                  and the social priorities for that area?

13                  A. I'm not up on the social priorities.

14                  Q. I was trying to understand your  
15                  statement. Your statement was that there is a full  
16                  choice of, I believe it was, other benefits?

17                  A. Other uses.

18                  Q. Other uses.

19                  MR. MARTEL: Is that what he is talking  
20                  about or is he talking in addition to a choice of  
21                  production possibilities for the forest industry itself  
22                  in terms of the amount of production at a given time?

23                  Are you talking about that there is one  
24                  amount that you can cut or are you saying there is  
25                  maybe or five or six options on the amount of wood that

1 can be cut and you include that in the equation?

2 MR. HANNA: I can't answer what Dean  
3 Baskerville -- I can tell you the way that I am --

4 MR. MARTEL: I am trying to understand  
5 you.

6 MR. HANNA: Yes, I understand.

7 MR. MARTEL: Are you talking about more  
8 than one production possibility for timber?

9 MR. HANNA: Yes. There is a multiple of  
10 production possibilities for timber with different  
11 costs associated with them.

12 MR. MARTEL: All right.

13 MR. HANNA: There is a multiple of  
14 production possibilities for all of the other ones.

15 MR. MARTEL: I was not sure whether that  
16 was what Mr. Benson was answering. That's why I want  
17 to get clarified what he is answering to.

18 MR. HANNA: Q. Mr. Benson?

19 A. The question again was? Can you  
20 repeat the question, so I make sure I get this right?

21 MR. HANNA: Perhaps you should ask Mr.  
22 Martel, but I will do my best.

23 Q. My understanding is, when you  
24 answered that there is a need for a range of choices,  
25 does that range of choices refer to range of choices in

1 terms of timber production in addition to the range of  
2 choices of production of other non-timber benefits?

3 Is that...

4 MR. MARTEL: Yes.

5 MADAM CHAIR: Well if you have one you  
6 have to have the other. I mean, I think that's--

7 THE WITNESS: Yes, that's right.

8 MADAM CHAIR: --obvious. Mr. Benson has  
9 been saying that, I think.

10 MR. MARTEL: But I think my concern is  
11 that I am not sure we are talking or are we talking  
12 about a number of production possibilities or choices  
13 for timber on a given unit at a given time?

14 In other words, you have got three  
15 options, four options options; you can take this amount  
16 and this is the result you get or you have a choice of  
17 taking this amount and with other things you will have  
18 these results, or are we looking at just one level of  
19 production possibility and the ramifications of that?

20 THE WITNESS: Yes. I would tend to  
21 divide the problem first into a land allocation  
22 problem. How much land do you allocate to timber  
23 production to solve that particular problem first and  
24 then the resources that go along with timber  
25 production; you may have options or alternatives within

1       that.

2                       In essence I agree with what's being said  
3       here except I think one of the major problems with the  
4       timber part is to tie down the amount of land that we  
5       are actually going to use for timber production. Once  
6       you get that tied down, you can work with the  
7       alternatives within that particular land base.

8                       I'm not exactly sure what he meant by how  
9       much timber you would get from the six production  
10      options unless he was looking in the future using  
11      different silvicultural methods and different  
12      production rates. That's possible.

13                      Q.   Isn't that reasonable?

14                      A.   Well, you can do that, but I think  
15      it's more important to deal with the present  
16      management, our problems at this particular time.

17                      In other words, if you want to predict  
18      how much timber can you produce a hundred years from  
19      now, well that's sort of a different problem from  
20      trying to resolve how you are going to manage the area  
21      over the next five years. It can have an effect on how  
22      you manage over the next five years, but it's not going  
23      to -- well, it is more important to solve the immediate  
24      issue.

25                      Q.   I'm sorry, I'm really lost here, Mr.



1 Benson, because I don't understand the difference  
2 between the immediate issue and the long-term issue. I  
3 sat here for three years and thought they were  
4 inseparable. How can you separate them?

5 A. Well, I guess it comes down to a  
6 matter of how sure you are about what's going to happen  
7 in the future. I think you can only plan with  
8 certainty -- with some degree of certainty at the  
9 present time for the next five years and you predict  
10 ahead for a hundred years what the results are going to  
11 be, but in another five years or perhaps even sooner,  
12 you redo that plan based upon new information and what  
13 happens in a hundred years based on that new revision  
14 may be different than what you had done previously.

15 Q. But in choosing among the production  
16 possibilities, you surely are advocating that we look  
17 at the long-term consequences in choosing among those  
18 production possibilities?

19 A. Yes, that's a factor that's going to  
20 influence it.

21 Q. The level of silvicultural investment  
22 I make and even the type of silvicultural treatments I  
23 undertake can affect the wood production over time?

24 A. In the long-term, yes,

25 Q. So there are alternate timber

1 production possibilities that we have to choose among?

2 A. In that respect, yes, there would be.

3 Q. So that the six production

4 possibilities include both timber production

5 possibilities and non-timber production possibilities?

6 A. Yeah. I guess also if you look at

7 the different level of silvicultural you can consider

8 that, too. If you looked at it from the point of view

9 of what we were talking about before, if you are

10 changing working groups, it would also affect timber

11 production that way also.

12 Q. And that has consequences for both

13 timber and non-timber benefits from the land base?

14 A. Yes, it can.

15 Q. Now, I'm not sure I understood by

16 what you mean solving first the land allocation issue.

17 A. Well --

18 Q. Can you explain that to me?

19 A. What is the land base that you are

20 going to be using for timber production; for example,

21 at the present time reserves are being put around some

22 particular lakes and it's not clear whether those are

23 going to be harvested in the future or not, but yet

24 that area is included in the MAD land base for the

25 initial calculation and if affects the initial

1 calculation.

2 A more extreme example say was that  
3 example I gave for Temagami where you had these skyline  
4 reserves around Lake Temagami where it was included in  
5 the land base for the allowable cut calculation and it  
6 should be excluded really from that land base. If it's  
7 going to be managed, in that particular case manage it  
8 separately.

9 Q. I have difficulty when you suggesting  
10 it be managed separately. I understand and accept your  
11 thesis that if it is never going to be harvested it  
12 should not be included as producing timber for timber  
13 production and it would be inappropriate in expressing  
14 the production possibilities with that option included  
15 to show timber being produced for the land. I accept  
16 that, okay.

17 What I don't understand is why you would  
18 want to excluded it from the analysis of resource  
19 benefits resulting from the forest structure in  
20 evaluating production possibilities. Why would you  
21 want to separate it? Why would you not include it as  
22 part of the management implications for that forest  
23 management unit?

24 A. Okay. I wasn't excluding it from  
25 that part, I was excluding it from the timber

1 production part for the supply of timber.

2 Certainly if it is involved in producing  
3 other resources of the area you would want to consider  
4 it that way.

5 Q. So the essence of your point is,  
6 don't include that as part of the ledger for wood  
7 production if it's never going to be harvested?

8 A. Yes.

9 Q. Now, with that understanding now of  
10 the land allocation issue, would you agree that we  
11 still have a matter of choice as being a key issue even  
12 once that land allocation is dealt with on the timber  
13 production -- or on the portion of the land base that's  
14 going to produce timber. The same issues are still  
15 there?

16 A. And here you are talking about the  
17 different levels of timber production that might be  
18 possible --

19 Q. Different levels of timber  
20 production, different levels of non-timber resource  
21 production and a wide range of alternatives we have  
22 available to us and the need to present a reasonable  
23 range of choices so the public can make an informed  
24 choice?

25 A. A feasible range I would suggest.



1                   Q. I am glad you added that. I was  
2 certainly implicitly including feasible, but within the  
3 feasible range of alternatives there still can be a  
4 broad range and that that range should be a reasonable  
5 reflection of the range that's available within the  
6 feasible range?

7                   A. Yes, I'd agree with that.

8                   Q. Could you look at term and condition  
9 No. 8 of the OFAH. It is on page 2.

10                  I would like to know if this term and  
11 condition reasonably reflects the matter that we have  
12 agreed to?

13                  A. Except for the social which I'm not  
14 sure what is meant by that.

15                  MR. FREIDIN: I'm sorry?

16                  THE WITNESS: Except for the social.  
17 Where it says "social" in the third last line of that  
18 statement, third word in from the left.

19                  MR. HANNA: Q. Otherwise you are in  
20 agreement with it?

21                  A. Yes, I agree that's reasonable.

22                  MADAM CHAIR: Excuse me, Mr. Benson. One  
23 issue that the Board discussed with Mr. Marek when he  
24 appeared before us was the question of what sort of  
25 leadership a forester would provide with respect to the

1 management of his or her area, and do you see the  
2 forester as always being lead by public opinion or do  
3 you see in fact that the forester must take the  
4 initiative and must say: Yes, this would be good for  
5 the forest and this wouldn't be?

6 THE WITNESS: It is a delicate area. I  
7 think there are some issues where it has to be  
8 provincially legislated or ruled that certain features  
9 of the environment must be managed for regardless of  
10 what public opinion might be in a certain area.

11 The unit forester I would see as the one  
12 that is putting together the information that the  
13 public can understand and appreciate the alternatives  
14 so that there is something that they can equate to and  
15 give their opinion on as to how they think it should be  
16 managed.

17 It's sort of a two-way street. I can't  
18 see where he would be entirely controlled by the public  
19 and I don't think the public should be entirely  
20 controlled by him. I think it should be somewhat of a  
21 split.

22 MR. HANNA: Q. Can we turn to page 56 of  
23 your witness statement, Mr. Benson. This is under the  
24 heading Expectation of Users and paragraph (b)  
25 indicates that:

1 "The method the OMNR uses to arrive at  
2 compromised decisions that must be made  
3 in the management of multiple resources  
4 is not clear."

5 Do you see that?

6 A. Yes, I do.

7 Q. Is it fair to conclude that based on  
8 your evaluatio of various timber management plans in  
9 the province that you could not trace the basis for  
10 many of the decisions?

11 A. Evaluating the management plans, I  
12 didn't really try to look at that particular problem  
13 that way. It has just been my own experience within  
14 the Thunder Bay District for those particular  
15 management plans where I can't quite understand it, how  
16 they've arrived at their final decision.

17 Q. Would you describe yourself as having  
18 an average understanding of timber management plans and  
19 the timber management planning process as compared to  
20 the average man in the street, or would you consider  
21 yourself having a higher level of understanding?

22 A. I'm not too sure how much the average  
23 man on the street understands. I would hope that I  
24 understand more than he does about it. I spent more  
25 time on it.

1 Q. Is it fair to conclude that if you  
2 were not able to trace through the decision, the  
3 decision logic and process in the timber management  
4 plans that you looked at in the Thunder Bay District  
5 that it would be impossible for the average citizen to  
6 follow the logic?

7 A. I would say so, yes.

8 Q. I would like to look at term and  
9 condition No. 10 of the Federation which is on page 2.  
10 I would like you to look specifically at Section 3  
11 through to 5 -- 6. Take a moment to look at those.

12 MADAM CHAIR: Mr. Hanna, I think it might  
13 be helpful if you read them out slowly.

14 MR. HANNA: Sure.

15 Q. Term and condition No. 10 indicates  
16 the general sequence - and this is under the heading  
17 Planning Sequence - shall be as follows: (1),  
18 identification and clear definition of forest resource  
19 features to be managed.

20 Perhaps I will go through each one, Mr.  
21 Benson. Do you agree with that?

22 MS. SWENARCHUK: He may need to hear the  
23 entire sequence before he agrees with the sequencing.

24 MR. HANNA: Fine.

25 Q. (2), compilation of basic data for



1 each feature; (3), application of integrated predictive  
2 tools to define the full range of feasible resource  
3 production possibilities; (4), evaluation of  
4 environmental tradeoffs associated with each  
5 alternative resource production possibility; (5),  
6 selection of a preferred alternative; (6),  
7 specification of precise timber and non-timber  
8 quantitative objectives to be met over time and space  
9 for the selected plan; (7), implementation of the plan;  
10 (8) monitoring of forest resources and users responses  
11 relative to plan objectives.

12 Now, with respect to subsections (3)  
13 through to (6), if that of a process was followed in a  
14 reasonable way and the results were communicated to the  
15 public, would that assist, in your view, in helping  
16 members of the public trace through the decision logic  
17 in timber management plans?

18 A. Point No. 4, I don't fully understand  
19 what is meant by the evaluation of environmental  
20 tradeoffs associated with each alternative -- with each  
21 alternative resource production possibility.

22 I'm not sure what is meant by that.

23 Q. Which term is it specifically that  
24 you are having difficulty with? The term tradeoffs?

25 A. Environmental tradeoffs. How that is

1 being used.

2 Q. You are aware and in fact your  
3 witness statement makes it patently clear that you  
4 recognize that in selecting among production  
5 possibilities that one may have to compromise between,  
6 say, moose production and aesthetics, that's an example  
7 that you brought forward.

8 A. Right.

9 Q. So that compromise is what is termed  
10 often a tradeoff decision; having to trade off moose  
11 for aesthetic quality.

12 A. Yes. I never looked at that as a  
13 tradeoff. I prefer not to call it a tradeoff.

14 Q. What is it when you go to 120 year  
15 rotation age that favours aesthetics and a 35 rotation  
16 age that favours moose, just as for instance, if that  
17 was in fact the appropriate value? How would you term  
18 it, making that choice?

19 A. Well, I think you would have to  
20 evaluate it for each particular area and lean it to the  
21 side which is considered more important in that area.  
22 Rather than being a tradeoff it is really managing the  
23 area for the resources that are more important for that  
24 particular area.

25 Q. I still don't disagree with you.

1 Let's talk about a particular area and making a  
2 particular decision. I'm just trying to get your  
3 terminology for, we are talking about a specific stand  
4 and we are trying to make a decision on a specific case  
5 as to what the rotation age is there in terms of moose  
6 or aesthetics and we are trying to choose between 35 and  
7 120 years. In making that choice what would you term  
8 that choice? Do you have a word that you prefer to use  
9 other than tradeoff?

10 A. First, the example would be not for a  
11 stand but for a forest for picking the rotation.

12 Q. Fine. I'm trying to make it simple.  
13 That's fine, whatever context you want to use.

14 A. And what I would relate it back to is  
15 that if you are trying to do it -- if you put values on  
16 them, you can maximize the present net worth idea and  
17 choose the rotation that is best suited for that, as  
18 per the example given by Caley and Teagarden that  
19 indicates how they would propose to do that. That's  
20 why I don't quite look at it as a tradeoff. I look at  
21 it as trying to maximize the present net worth of the  
22 production of resources there.

23 Q. But surely you will accept that there  
24 is a tradeoff implicit in maximizing that net worth?

25 A. In respect of the way you use the

1 word tradeoff, it's certainly --

2 Q. A compromise?

3 A. You can't produce both resources.

4 You maximize production of both resources, right.

5 Q. I think this is a semantical issue.

6 The point you are saying is that you would want those  
7 benefits valued and that's why you have used the net  
8 present worth criteria?

9 A. That's right.

10 Q. And step 4 is simply saying we must  
11 value those components. Just accepting the word  
12 tradeoffs. I understand you have got difficulty with  
13 that, so let's use the term environmental benefits and  
14 costs.

15 A. Yes, okay.

16 Q. So continue on then, please. Are  
17 there any others?

18 A. Point 6 I think really is tied into 5  
19 if you are selecting the preferred alternative. I  
20 would think it's the same as -- the same item, rather,  
21 six is just giving more detail than No. 5.

22 Q. I will accept that. But accepting  
23 that, you haven't any problem with it?

24 A. No. In your particular list here, I  
25 would add a No. 9 and that would be that when you



1 implement a plan and monitor it, as you have in No.  
2 8 -- well, the monitoring is no good if you don't use  
3 that monitoring process to go back and revise a plan.

4 Q. Now, if that type of planning  
5 sequence was followed in a reasonably diligent way,  
6 would that provide or would that assist the public in  
7 being able to tries the decision logic associated with  
8 timber management plans in your view given the  
9 experience that you have had?

10 A. Now, it certainly would assist me. I  
11 can't really speak for the general public.

12 Q. Well, speak for yourself. I'm  
13 interested in you.

14 A. For me, it would certainly clarify it  
15 and make it easier to understand, yes.

16 Q. We spoke earlier about the matter of  
17 biodiversity and I'm not planning on getting in with  
18 you on the details of biodiversity and its need for  
19 the -- implications of wildlife and those types of  
20 things, but I'm interested in your view as a forester  
21 and it seems to me that one of the major points you  
22 make in your witness statement - and I think you have  
23 referred to this morning - is the need to retain a  
24 distribution of age classes of stands on a variety of  
25 sites. Is that a fair statement?

1 A. That's correct.

2 Q. And I believe you referred earlier to  
3 term and condition No. 158 through to 162 and I would  
4 now like to speak specifically to you about those.  
5 They start on page 27.

6 MR. FREIDIN: What term and condition,  
7 Mr. Hanna, please?

8 MR. HANNA: Term and condition 158  
9 through to 162.

10 MR. FREIDIN: Thank you.

11 MR. HANNA: Q. I want to explore with  
12 you if there is a substantive difference between the  
13 statements that you have made in terms of the need for  
14 a range -- a reasonable range of stand ages and types  
15 on different site types and what is proposed here in  
16 section 5.4.

17 Perhaps I will ask you, do you feel this  
18 is sufficiently clear for you to understand what is  
19 proposed? Is there something you need clarified first  
20 of all before I ask you the question?

21 A. I think we had some misunderstanding  
22 before, when I said I thought you wanted to use the FEC  
23 system as a means for managing the area from a point of  
24 view of understanding what the vegetation structure is  
25 on the area and you wanted to use FEC to try to manage

1 the area to maintain or to manipulate the structure of  
2 the forest.

3 Instead of using the working group you  
4 are planning to use FEC as the base?

5 Q. You are aware of the concern of  
6 biodiversity obviously and that the essence of what you  
7 are saying is the need to have a range of stand types  
8 on site types; correct?

9 A. To maintain that range, yes.

10 Q. In order to implement that concept  
11 one has to get down to details of what is a stand, what  
12 is a site?

13 A. Correct.

14 Q. The proposals that I'm suggesting is  
15 put forward before you here is that the definition of  
16 site, in order to assure that that objective is met, is  
17 that the site type will be defined by the FEC types?

18 A. Okay. I wouldn't narrow it down  
19 quite that fine because the FEC site types have -- it  
20 is a new concept and there may be something missed  
21 within that particular concept.

22 Q. What site type would you propose?  
23 What site type classification system would you propose  
24 to use?

25 MADAM CHAIR: Mr. Benson, isn't your

1 evidence before the Board that the approach you see to  
2 dealing with the biodiversity issue is in fact breaking  
3 up the clearcuts more than they are now and configuring  
4 them in such a way that they are not contiguous, and  
5 you haven't given us any evidence as to specific sizes  
6 of those breaks or the stands or the species, but you  
7 feel that if you leave more space between clearcuts and  
8 that the clearcuts themselves are smaller that that  
9 should address biodiversity?

10 THE WITNESS: Madam Chair, I didn't say  
11 it that clearly, but that's right.

12 I think in answer to your question,  
13 though, with site classification there's -- site  
14 classification methods have been around for a long  
15 time, there have been different site classification  
16 methods, and the problem for the forester is that  
17 either they haven't been mapped or on the ground or  
18 they haven't been uniform across the province.

19 There are different proposal as to how  
20 you classify these sites and I suppose in the detail  
21 they are all good and bad and I'm really not the best  
22 one to analyse them that way.

23 What I'm proposing is, what can you do  
24 now to look after the area. If you want to add in  
25 better site classification method in the future, well



1       that's possible. What particular site classification  
2       method, I'm not the best one to evaluate that.

3                   Q. I'm concerned about your response to  
4       Madam Chair in that I want to make sure I understand  
5       this. You are saying that if the cuts are broken up to  
6       a greater degree that would deal with biodiversity?  
7       That would deal with biodiversity in your view? That's  
8       the essence of what I understood Madam Chair put to  
9       you.

10                  A. Yes. If you break up the size of the  
11       cuts and if you look at providing the different areas  
12       that are involved for area sensitive species and you  
13       provide areas, smaller areas to provide more diversity  
14       and you provide those over a management unit, you  
15       should be able to look after the diversity or the other  
16       users.

17                  Q. But, Mr. Benson, the problem you are  
18       faced with is -- everyone will accept that. We will  
19       sit here and say: Yes, that sounds good and it feels  
20       nice, but what does it mean specifically in terms of  
21       what we do on the ground? Operationally, how do we get  
22       that down to something that can measured and can be  
23       used as a point of reference to ensure that the general  
24       principles that you are bringing forth are actually  
25       implemented on the ground?

1                   How much is enough? Where, what shape,  
2                   those types of questions.

3                   MADAM CHAIR: Mr. Benson, do you believe  
4                   those types of questions are reasonable and that you  
5                   can do that sort of thing with the forest?

6                   MR. HANNA: Madam Chair, I'm sorry, but I  
7                   have to object to these interjections in my  
8                   cross-examination.

9                   I have a right to put a question to this  
10                  witness and to hear an answer to the question, and I  
11                  cannot carry forward with cross-examination when I do  
12                  not get an answer to my questions. I'm sorry, I say  
13                  that with the greatest respect, but I have to have  
14                  answers from the witness and I have to be able to carry  
15                  forward a line of questioning. It is very disruptive  
16                  to the cross-examination to have this repeatedly occur  
17                  when I'm asking questions to the witness.

18                  I'm sorry to say that, but it is very  
19                  difficult for me to continue through my  
20                  cross-examination.

21                  MADAM CHAIR: Mr. Hanna, I think we  
22                  should keep in mind what the whole purpose of this  
23                  exercise is and that's to get information before the  
24                  Board. What's relevant to us is much more important  
25                  than how happy you are with the answers to questions

1       you get and I think you should be grateful that the  
2       Board provides you with some reaction occasionally as  
3       to whether or not you are being effective in your  
4       cross-examination.

5                   MR. HANNA:  Madam Chair, I appreciate  
6       that to the greatest extent and I will look forward to  
7       that whenever it occurs.

8                   My point is simply, I also have a  
9       responsibility to you to bring forward information to  
10      you in the best way that I know possible.  I have  
11      expert advisors assisting me in that respect.  I  
12      understand that that's my role to bring that  
13      information forward to you in the best way possible and  
14      I'm doing my very best in that.

15                   The difficulty I have is unless that flow  
16      of communication goes back and forth between the  
17      witness and the interrogatory -- the interrogator, that  
18      the flow is broken and that's my point.  It just is  
19      very, very difficult when I ask a question and don't  
20      get a response because I have to then go back and set  
21      up the whole circumstance under which the question was  
22      asked and it often can be very difficult to get back to  
23      where you were and that's the reason I brought it  
24      forward.

25                   MADAM CHAIR:  That's fine, Mr. Hanna,

1 but you must keep your eyes and ears open and realize  
2 when the Board interjects we are finding that your  
3 question isn't very useful to us.

4 MR. MARTEL: I might just add that I  
5 interject because, quite frankly, there are occasions I  
6 don't understand and there is no sense Mr. Benson  
7 giving an answer to something that doesn't mean a row  
8 of beans to me.

9 If I can't understand it, then I can't  
10 make any sort of judgment on what the answers is all  
11 about. I don't do this simply because I want to  
12 interject, I can assure you, but I have to understand  
13 to be able to follow what's going on.

14 MR. HANNA: Mr. Martel, I appreciate that  
15 and I certainly certainly am not in any way objecting  
16 to the Board ensuring that they understand the  
17 question, and I accept that. I see it as my duty to  
18 ensure that you can follow the line of questions that  
19 I'm bringing forward.

20 MADAM CHAIR: No, it's not your duty to  
21 see that we follow the line of questioning. It is your  
22 job, Mr. Hanna, to provide us with some useful  
23 information.

24 Why don't you continue with your  
25 cross-examination now. Are you going to be finished by



1 noon?

2 MR. HANNA: No, I will not, Madam Chair.

3 MADAM CHAIR: Well, in that case I think  
4 we have had enough this morning. We will break now.  
5 You will be back tomorrow morning at nine o'clock?

6 MR. HANNA: Yes, Madam Chair.

7 MADAM CHAIR: Thank you very much, Mr.  
8 Benson..

9 MR. CASSIDY: Madam Chair, if I could  
10 just make one small comment.

11 MADAM CHAIR: What is your comment about,  
12 Mr. Cassidy?

13 MR. CASSIDY: To give you a transcript  
14 number that I have not already given to Mr. Pascoe that  
15 you may want to have for my cross-examination and  
16 that's Volume 244.

17 MR. MARTEL: He is at the back. Mr.  
18 Pascoe is at the back.

19 MR. CASSIDY: All right. I didn't see  
20 him here.

21 Thank you, Madam Chair.

22 ---Whereupon the hearing was adjourned at 11:45 a.m, to  
23 be reconvened on Thursday, January 10th, 1991  
24 commencing at 9:00 a.m.

25 [c. copyright 1985].











